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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,942	10/22/2003	Joseph A. Swift	D/A0430D	6185

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Rochester, NY 14644

EXAMINER

TSOY, ELENA

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/690,942

Applicant(s)

SWIFT ET AL.

Examiner

Elena Tsoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Response to Amendment

1. Amendment filed on August 23, 2004 has been entered. Claims 1-6 are pending in the application.

Specification

2. Objection to the disclosure because of the informalities has been withdrawn due to amendment.

Claim Objections

3. Objection to claim 4 because of the informalities has been withdrawn due to amendment.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Rejection of claims 1-6 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been withdrawn due to amendment.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. **Claims 1-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al (US 5,978,639) in view of Badesha et al (US 5,366,772) and Cooper et al (US 4,365,042).

Masuda et al disclose a process for producing a continuous, intermediate transfer member which is formed as a belt or drum-like shape (See column 17, lines 36-49), comprising winding around a mandrel a woven fabric, laminating thereon (elastomeric) rubber 201 (See column 29, lines 11-18) followed by vulcanization molding to prepare a rubber belt (i.e. rubber impregnates, penetrates and anchors woven fabric), then coating the rubber belt with a surface layer 202 of fluorocarbon resin thus obtaining an intermediate transfer belt (See Fig. 4; column 29, lines 10-18); and drying and hardening the surface layer 202 (See column 19, lines 58-60) at elevated temperature (See column 32, lines 47-49). The rubber 201 is e.g. silicone rubber (See column 20, lines 9-11, 18). The fluorocarbon resin is e.g. polytetrafluoroethylene, tetrafluoroethylene-perfluoroalkylvinylether copolymer, tetrafluoroethylene-hexafluoropropylene-perfluoroalkylvinylether copolymer, tetrafluoroethylene-ethylene copolymer, polychlorotrifluoroethylene, chlorotrifluoroethylene-ethylene copolymer, polyvinylidene fluoride, and polyvinyl fluoride (See column 19, lines 38-45; column 24, lines 23-31) to prevent adhesion and fusion of toner (See column 19, lines 45-46).

Masuda et al fail to teach that a primer layer of a polyfunctional silicone composition is applied to the rubber layer and hydrolyzed to form a chemical bond between said rubber layer and the hydrolyzed silicone composition.

Badesha et al teach that a bifunctional coupling agent such as aminosilane coupling agent, e.g. 3-aminopropyl trialkoxysilane (See column 7, lines 39-56) can be used for chemically linking a fluoropolymer such as poly(propylene-tetrafluoroethylene) or a poly(propylene-tetrafluoroethylene-vinylidene fluoride) (See column 9, lines 35-55) and alkoxy functional

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polyorganosiloxane (See column 10, lines 30-49), by forming C-N-linkage between the bifunctional coupling agent and the fluoropolymer, and C-O-linkage between the bifunctional coupling agent and polyorganosiloxane for mechanical and structural integrity of a fuse member (See column 9, lines 11-19). Typically, linking is achieved by treating the fluoropolymer with aminosilane coupling agent in the presence of dehydrofluorinating agent (See column 7, lines 5-9, 35-56) to afford an aminosilane grafted fluoropolymer, hydrolyzing alkoxy groups of the aminosilane coupling agent in the presence of the alkoxy functional polyorganosiloxane resulting in condensation of the polyorganosiloxane with the aminosilane coupling agent (See column 11, lines 49-61). One of ordinary skill in the art at would understand that the same linkage could also be achieved by grafting first the aminosilane coupling agent to the polyorganosiloxane, then linking the grafted aminosilane coupling agent to the fluoropolymer. In other words, one of ordinary skill in the art at would have reasonable expectation of success in linking a fluoropolymer and alkoxy functional polyorganosiloxane by first hydrolyzing alkoxy groups of the aminosilane coupling agent applied to the alkoxy functional polyorganosiloxane to graft the aminosilane coupling agent to the polyorganosiloxane via condensation reaction, then graft the aminosilane coupling agent in the presence of dehydrofluorinating agent to the fluoropolymer.

Cooper et al teach that a silicone rubber can be of alkoxy functional polyorganosiloxane (See Claim 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a method of Badesha et al to join a fluoropolymer layer 202 to a silicone rubber layer 201 in Masuda et al by using 3-aminopropyl trialkoxysilane (including claimed 3-aminopropyl triethoxysilane) as aminosilane coupling agent and alkoxy functional polyorganosiloxane as a silicone rubber in Masuda et al to graft first the coupling agent to the

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silicone rubber layer 201 by hydrolyzing the aminosilane coupling agent to form a chemical bond between the silicone rubber layer 201 and hydrolysed aminosilane coupling agent via condensation reaction, then bonding the grafted hydrolysed aminosilane coupling agent to a fluorocarbon layer 202 with the expectation of providing the desired mechanical and structural integrity of the belt, as taught by Badesha et al.

8. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al (US 5,978,639) in view of Badesha et al (US 5,366,772) and Cooper et al (US 4,365,042), further in view of Van Bennekom (US 5,918,098).

Masuda et al in view of Badesha et al and Cooper et al, as applied above, fail to teach that the fluorocarbon layer is a tetrapolymer of vinylidene fluoride, hexafluoropropylene, tetrafluoroethylene and a cure site monomer.

Van Bennekom teaches that a tetrapolymer of vinylidene fluoride, hexafluoropropylene, tetrafluoroethylene and a cure site monomer is suitable for making an outer surface elastomer layer (See column 6, lines 14-15, 27-29) on fusing belts (See column 4, lines 51-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a tetrapolymer of vinylidene fluoride, hexafluoropropylene, tetrafluoroethylene and a cure site monomer as a fluorocarbon resin layer in Masuda et al in view of Badesha et al and Cooper et al since Van Bennekom teaches that a tetrapolymer of vinylidene fluoride, hexafluoropropylene, tetrafluoroethylene and a cure site monomer is suitable for making an outer surface elastomer layer on fusing belts.

It is held that the selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416

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(CCPA 1960) (selection of a known plastic to make a container of a type made of plastics prior to the invention was held to be obvious); *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 8 USPQ2d 1323 (Fed. Cir. 1988).

Response to Arguments

9. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

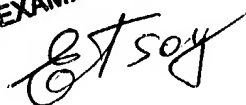
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (571) 272-1429. The examiner can normally be reached on Mo-Thur. 9:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy
Primary Examiner
Art Unit 1762

ELENA TSOY
PRIMARY EXAMINER



September 8, 2004